Pump Repair and Well Reconstruction Saves Money and Increases Water Production

Arlington Heights, Illinois

Layne used a pump service rig to remove an oil lubricated pumping assembly set to a depth of 1,000 ft. and weighing 80,000 lbs.

Key Project Areas

Water Supply

Well Reconstruction

Pump Installation

The Village of Arlington Heights, Illinois' pump efficiency had declined significantly over time. Consequently, Layne removed, inspected, and repaired its 450 HP oil lubricated pumping assembly set to a depth of 1,000 ft. The pumping assembly consisted of 10-inch column pipe, 3 1/2-inch oil tubing, and 2 3/15-inch lineshaft, and the bowl assembly was rated for 1,400 gpm.

A downhole video survey of the well was conducted after the pumping assembly was removed and a formation liner was found to be in poor condition, which resulted in an obstruction in the well. Layne subsequently mobilized a 36L Bucyrus Erie cable tool rig. The rig was used to clear the obstruction in the well, install a new wall liner from 892 ft. to 1,046 ft., and clean out the well to its original total depth of 1,795 ft.

The repairs to the pumping assembly were completed in Layne's machine shop during the well reconstruction work, which resulted in less down time for the utility. The total project investment was approximately 15% of the cost of a new similar well and pumping assembly.